

THE TERRORIST'S HANDBOOK VOL I



NECHAYEVSHCHINAED.

IO NECHAYEVSHCHINA!

Distruggo ed Eleggo, immergendomi e riaffiorando, dal mio Inferno Personale, per Affermare e frammentare la lucida coscienza sepolta da innumerevoli acronimi etici di vita consunta, che desiste in allocuzioni e un defunto memento mori.

L'Annientamento della vita "viva" che muore sepolta da susulti e gemiti umanistici, in arrancare aggrappandosi al sistema metrico decimale della società, e le sue prefiche giuridiche.

Uomo morto, morto vivente in questa società, sepolto dalla nebbia che artiglia la gola e il pensiero..

Il Terrorismo Nichilista si dispiega in e attraverso questo panfeto, non seguendo la ragione che "dice" e persegue la parallela conformazione sentimentalista del povero che si unisce con il debole.

L'Attacco Nichilistico non percepisce alcun limite "alcuno" in nessun luogo, e attraverso la Distruzione dell'Attentato Annientativo, Afferma il Potere della Volontà che spezzando e frammentando, si SuperPotenzia, elevando l'Individuo verso il Baratro dell'Estremo...

La dicotomia presente nella regola che denota la materia, come fondamento base e basico del Potere nel Distruggere, non ha alcun significato apodittico e prevalente, e in alcuni "casi" si situa sotto la croce della redenzione e della sofferenza cristiano indulgente come rimozione dell'Azione che ha Agito.

IO NECHAYEVSHCHINA Affermo che l'Annientamento Nichilistico Distrugge con la Nitroglicerina e la Dinamite, quando l'Iconoclastica Volontà di Potenza, abbatte e provoca:

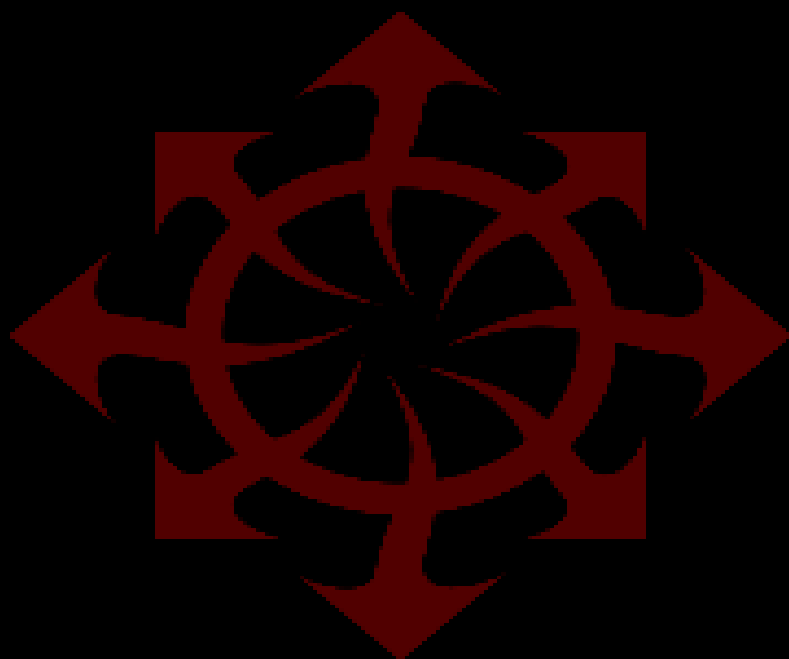
disturbo nervoso, panico del pensiero, brivido di insicurezza,

perdita di coscienza, e oblio della certezza nella vita!

**Il panfletto “THE TERRORIST'S
HANDBOOK VOL I” è il Feroce Incipit di Terrorismo Ni-
chilista, pungolo che colpisce il sorriso anemico dell’eroe e
della vittima, del normo uomo, e dell’etica basicamente co-
mune e organicamente inserita nel diritto giuridico
all’esistenza.**

IO NECHAYEVSHCHINA!

**Ps: Ogni frase di retorica e di circostanza, inserita nel panfle-
tto dall’anonimo precedente autore(“avvisi di pericolo”), non
hanno alcun peso, nel complesso dell’Appropriazione Egoi-
camente Voluta da me stesso.**



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BUYING EXPLOSIVES AND PROPELLANTS

BLACK POWDER

Black powder is generally available in three grades. As stated before, the smaller the grade, the faster the powder burns. Burn rate is extremely important in bombs. Since an explosion is a rapid increase of gas volume in a confined environment, to make an explosion, a quick-burning powder is desirable.

The three common grades of black powder are listed below, along with the usual bore width (calibre) of what they are used in. Generally, the fastest burning powder, the FFF grade is desirable. However, the other grades and uses are listed below:

GRADE	BORE WIDTH	EXAMPLE OF GUN
----	-----	-----
F	.50 or greater	model cannon; some rifles
FF	.36 - .50	large pistols; small rifles
FFF	.36 or smaller	pistols; derringers

The FFF grade is the fastest burning, because the smaller grade has more surface area or burning surface exposed to the flame front. The larger grades also have uses which will be discussed later. The price range of black powder, per pound, is about \$8.50 - \$9.00. The price is not affected by the grade, and so one saves oneself time and work if one buys the finer grade of powder. The major problems with black powder are that it can be ignited accidentally by static electricity, and that it has a tendency to absorb moisture from the air.

To safely crush it, a bomber would use a plastic spoon and a wooden salad bowl. Taking a small pile at a time,

he or she would apply pressure to the powder through the spoon and rub it in a series of strokes or circles, but not too hard. It is fine enough to use when it is about as fine as flour.

The fineness, however, is dependant on what type of device one wishes to make; obviously, it would be impractical to crush enough powder to fill a 1 foot by 4 inch radius pipe. Anyone can purchase black powder, since anyone can own black powder firearms in America.

PYRODEX

Pyrodex is a synthetic powder that is used like black powder. It comes in the same grades, but it is more expensive per pound. However, a one pound container of pyrodex contains more material by volume than a pound of black powder. It is much easier to crush to a very fine powder than black powder, and it is considerably safer and more reliable.

This is because it will not be set off by static electricity, as black can be, and it is less inclined to absorb moisture. It costs about \$10.00 per pound.

It can be crushed in the same manner as black powder, or it can be dissolved in boiling water and dried.

ROCKET ENGINE POWDER

One of the most exciting hobbies nowadays is model rocketry. Estes is the largest producer of model rocket kits and engines. Rocket engines are composed of a single large grain of propellant. This grain is surrounded by a fairly heavy cardboard tubing. One gets the propellant by slitting the tube lengthwise, and unwrapping it like a paper towel roll.

When this is done, the grey fire clay at either end of the propellant grain must be removed. This is usually done gently with a plastic or brass knife. The material is exceptionally hard, and must be crushed to be used. By gripping the grain on the widest setting on a set of pliers, and putting the grain and powder in a plastic bag, the powder will not break apart and shatter all over.

This should be done to all the large chunks of powder, and then it should be crushed like black powder. Rocket engines come in various sizes, ranging from 1/4 A - 2T to the incredibly powerful D engines.

The larger the engine, the more expensive. D engines come in packages of three, and cost about \$5.00 per package. Rocket engines are perhaps the single most useful item sold in stores to a terrorist, since they can be used as is, or can be cannibalized for their explosive powder.

RIFLE/SHOTGUN POWDER

Rifle powder and shotgun powder are really the same from a practical standpoint. They are both nitrocellulose based propellants. They will be referred to as gunpowder in all future references. Gunpowder is made by the action of concentrated nitric and sulfuric acid upon cotton. This material is then dissolved by solvents and then reformed in the desired grain size.

When dealing with gunpowder, the grain size is not nearly as important as that of black powder. Both large and small grained gunpowder burn fairly slowly compared to black powder when unconfined, but when it is confined, gunpowder burns both hotter and with more gaseous expansion, producing more pressure.

Therefore, the grinding process that is often necessary for other propellants is not necessary for gunpowder. Gunpowder costs about \$9.00 per pound. Any idiot can buy it, since there are no restrictions on rifles or shotguns in the U.S.

FLASH POWDER

Flash powder is a mixture of powdered zirconium metal and various oxidizers. It is extremely sensitive to heat or sparks, and should be treated with more care than black powder, with which it should NEVER be mixed. It is sold in small containers which must be mixed and shaken before use. It is very finely powdered, and is available in three speeds: fast, medium, and slow.

The fast flash powder is the best for using in explosives or detonators. It burns very rapidly, regardless of confinement or packing, with a hot white "flash", hence its name. It is fairly expensive, costing about \$11.00.

It is sold in magic shops and theatre supply stores.

AMMONIUM NITRATE

Ammonium nitrate is a high explosive material that is often used as a commercial "safety explosive" It is very stable, and is difficult to ignite with a match. It will only light if the glowing, red-hot part of a match is touching it. It is also difficult to detonate; (the phenomenon of detonation will be explained later) it requires a large shockwave to cause it to go high explosive.

Commercially, it is sometimes mixed with a small amount of nitroglycerine to increase its sensitivity. Ammonium nitrate is used in the "Cold-Paks" or "Instant Cold", available in most drug stores. The "Cold Paks" consist of a bag of water, surrounded by a second plastic bag containing the ammonium nitrate.

To get the ammonium nitrate, simply cut off the top of the outside bag, remove the plastic bag of water, and save the ammonium nitrate in a well sealed, airtight container, since it is rather hygroscopic, i.e. it tends to absorb water from the air. It is also the main ingredient in many fertilizers.

ACQUIRING CHEMICALS

The first section deals with getting chemicals legally. This section deals with "procuring" them. The best place to steal chemicals is a college. Many state schools have all of their chemicals out on the shelves in the labs, and more in their chemical stockrooms.

Evening is the best time to enter lab buildings, as there are the least number of people in the buildings, and most of the labs will still be unlocked.

One simply takes a bookbag, wears a dress shirt and jeans, and tries to resemble a college freshman. If anyone asks what such a person is doing, the thief can simply say that he is looking for the polymer chemistry lab, or some other chemistry-related department other than the one they are in.

One can usually find out where the various labs and departments in a building are by calling the university.

There are, of course other techniques for getting into labs after hours, such as placing a piece of cardboard in the latch of an unused door, such as a back exit. Then, all one needs to do is come back at a later hour. Also, before this is done, terrorists check for security systems.

If one just walks into a lab, even if there is someone there, and walks out the back exit, and slip the cardboard in the latch before the door closes, the person in the lab will never know what happened. It is also a good idea to observe the building that one plans to rob at the time that one plans to rob it several days before the actual theft is done.

This is advisable since the would-be thief should know when and if the campus security makes patrols through buildings.

Of course, if none of these methods are successful, there is always section 2.11, but as a rule, college campus security is pretty poor, and nobody suspects another person in the building of doing anything wrong, even if they are there at an odd hour.

TECHNIQUES FOR PICKING LOCKS

If it becomes necessary to pick a lock to enter a lab, the world's most effective lockpick is dynamite, followed by a sledgehammer. There are unfortunately, problems with noise and excess structural damage with these methods. The next best thing, however, is a set of army issue lockpicks. These, unfortunately, are difficult to acquire. If the door to a lab is locked, but the deadbolt is not engaged, then there are other possibilities.

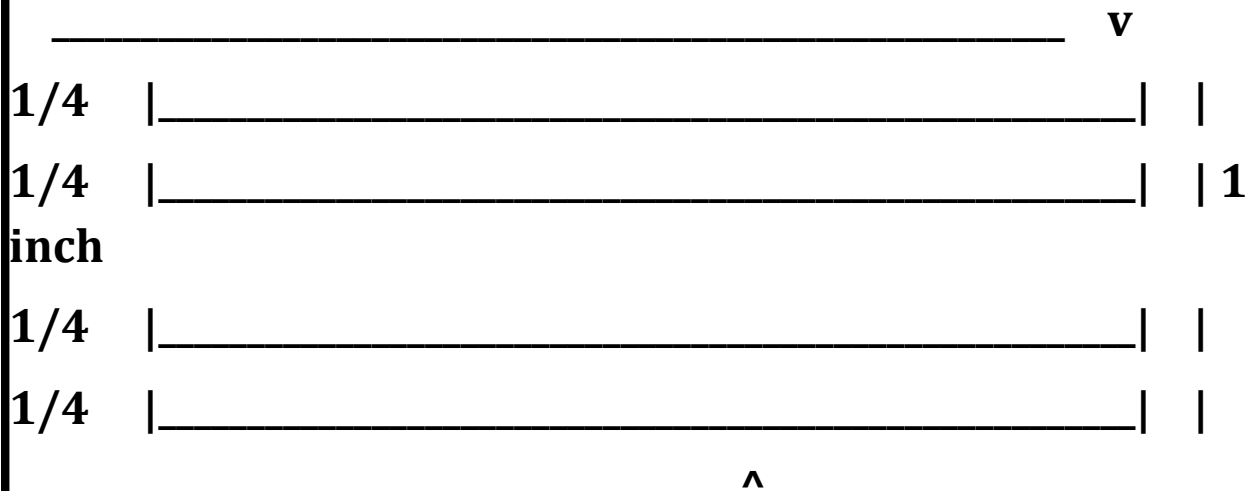
The rule here is: if one can see the latch, one can open the door. There are several devices which facilitate freeing the latch from its hole in the wall.

Dental tools, stiff wire (20 gauge), specially bent aluminum from cans, thin pocket- knives, and credit cards are the tools of the trade. The way that all these tools and devices are used is similar: pull, push, or otherwise move the latch out of its hole in the wall, and pull the door open. This is done by sliding whatever tool that you are using behind the latch, and pulling the latch out from the wall.

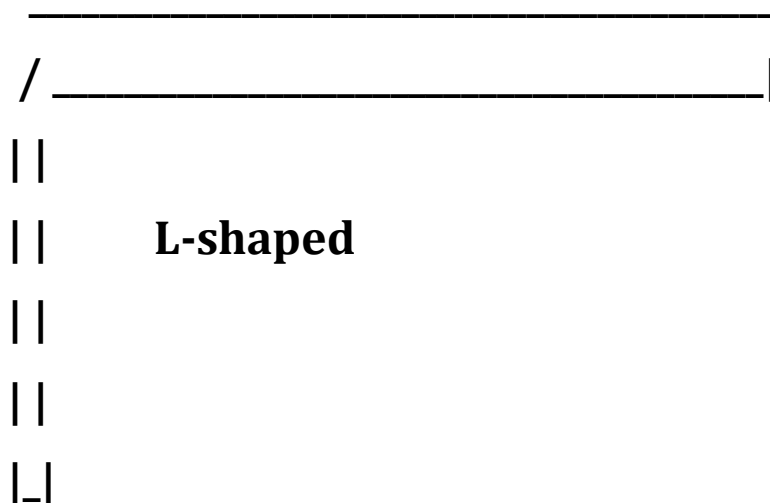
To make an aluminum-can lockpick, terrorists can use an aluminum can and carefully cut off the can top and bottom. Cut off the cans' ragged ends. Then, cut the open-ended cylinder so that it can be flattened out into a single long rectangle. This should then be cut into inch wide strips. Fold the strips in 1/4 inch increments (1).

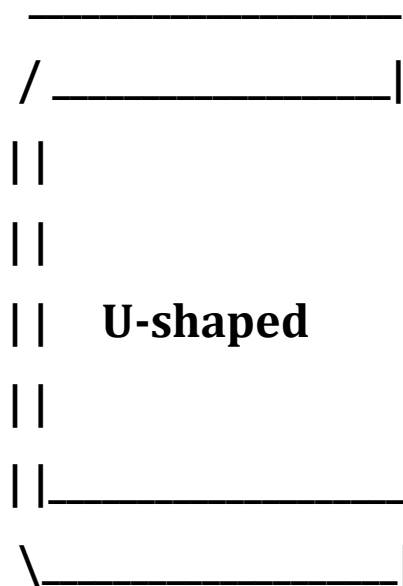
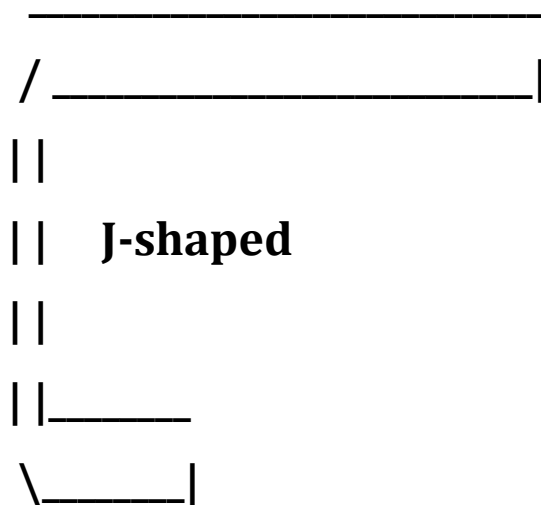
One will have a long quadruple-thick $\frac{1}{4}$ inch wide strip of aluminum. This should be folded into an L-shape, a J-shape, or a U-shape. This is done by folding. The pieces would look like this:

(1)



Fold along lines to make a single quadruple-thick piece of aluminum. This should then be folded to produce an L,J,or U shaped device that looks like this:





All of these devices should be used to hook the latch of a door and pull the latch out of its hole. The folds in the lockpicks will be between the door and the wall, and so the device will not unfold, if it is made properly.

LIST OF USEFUL HOUSEHOLD CHEMICALS AND THEIR AVAILABILITY

Anyone can get many chemicals from hardware stores, supermarkets, and drug stores to get the materials to make explosives or other dangerous compounds. A would-be terrorist would merely need a station wagon and some money to acquire many of the chemicals named here.

Chemical	Used In	Available at
_____	_____	_____

alcohol, ethyl *	alcoholic beverages	liquor stores
	solvents (95% min. for both)	hardware stores

ammonia +	CLEAR household ammonia	
supermarkets/7-eleven		

ammonium	instant-cold paks,	drug stores,
nitrate	fertilizers	medical supply stores

**nitrous oxide
supply stores**

pressurizing whip cream

party

**magnesium
stores**

firestarters

surplus/camping

**lecithin
res**

vitamins

pharmacies/drug sto-

**mineral oil
drug stores**

cooking, laxative

supermarket/

**mercury @
supermarkets/hardware stores**

mercury thermometers

**sulfuric acid
stores**

uncharged car batteries

automotive

glycerine

?

pharmacies/drug stores

**sulfur
store**

gardening

gardening/hardware

**charcoal
gardening stores**

charcoal grills

supermarkets/

sodium nitrate

fertilizer

gardening store

**cellulose (cotton)
supply stores**

first aid

drug/medical

**strontium nitrate
stores,**

road flares

surplus/auto

**fuel oil
stores,**

kerosene stoves

surplus/camping

bottled gas	propane stoves	surplus/
camping stores,		

potassium permanganate water purification	purifi-
cation plants	

hexamine or	hexamine stoves	surplus/
camping stores		
methenamine	(camping)	

nitric acid ^	cleaning printing	printing shops
plates	photography stores	

iodine &	first aid	drug stores
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sodium perchlorate	solidox pellets	hardware
stores		
for cutting torches		

Notes: * ethyl alcohol is mixed with methyl alcohol when it is used as a

solvent. Methyl alcohol is very poisonous. Solvent alcohol must be at least 95% ethyl alcohol if it is used to make mercury fulminate.

Methyl alcohol may prevent mercury fulminate from forming.

+ Ammonia, when bought in stores comes in a variety of forms. The pine and cloudy ammonias should not be bought; only the clear ammonia should be used to make ammonium triiodide crystals.

Mercury thermometers are becoming a rarity, unfortunately. They may be hard to find in most stores. Mercury is also used in mercury switches, which are available at electronics stores. Mercury is a hazardous substance, and should be kept in the thermometer or mercury switch until used. It gives off mercury vapors which will cause brain damage if inhaled. For this reason, it is a good idea not to spill mercury, and to always use it outdoors. Also, do not get it in an open cut; rubber gloves will

help prevent this.

^ Nitric acid is very difficult to find nowadays. It is usually stolen by bomb makers, or made by the process described in a later section. A desired concentration for making explosives about 70%.

& The iodine sold in drug stores is usually not the pure crystalline form that is desired for producing ammonium triiodide crystals.

To obtain the pure form, it must usually be acquired by a doctor's prescription, but this can be expensive. Once again, theft is the means that terrorists result to.

PREPARATION OF CHEMICALS

NITRIC ACID

There are several ways to make this most essential of all acids for explosives. One method by which it could be made will be presented.

Materials:

**sodium nitrate or
potassium nitrate**

distilled water

**concentrated
sulfuric acid**

Equipment:

adjustable heat source

retort

ice bath

stirring rod

collecting flask with stopper

1) Pour 32 milliliters of concentrated sulfuric acid into the retort.

2) Carefully weigh out 58 grams of sodium nitrate, or 68 grams of potassium nitrate. and add this to the acid slowly. If it all does not dissolve, carefully stir the solution with a glass rod until it does.

3) Place the open end of the retort into the collecting flask, and place the collecting flask in the ice bath.

4) Begin heating the retort, using low heat. Continue heating until liquid begins to come out of the end of the retort. The liquid that forms is nitric acid.

Heat until the precipitate in the bottom of the retort is almost dry, or until no more nitric acid is forming. CAUTION: If the acid is headed too strongly, the nitric acid will decompose as soon as it is formed. This can result in the production of highly flammable and toxic gasses that may explode. It is a good idea to set the above apparatus up, and then get away from it.

Potassium nitrate could also be obtained from store-bought black powder, simply by dissolving black powder in boiling water and filtering out the sulfur and charcoal. To obtain 68 g of potassium nitrate, it would be necessary to dissolve about 90 g of black powder in about one litre of boiling water. Filter the dissolved solution through filter paper in a funnel into a jar until the liquid that pours through is clear.

The charcoal and sulfur in black powder are insoluble in water, and so when the solution of water is allowed to evaporate, potassium nitrate will be left in the jar.

SULFURIC ACID

Sulfuric acid is far too difficult to make outside of a laboratory or industrial plant. However, it is readily available in an uncharged car battery. A person wishing to make sulfuric acid would simply remove the top of a car battery and pour the acid into a glass container.

There would probably be pieces of lead from the battery in the acid which would have to be removed, either by boiling or filtration.

The concentration of the sulfuric acid can also be increased by boiling it; very pure sulfuric acid pours slightly faster than clean motor oil.

AMMONIUM NITRATE

Ammonium nitrate is a very powerful but insensitive high-order explosive. It could be made very easily by pouring nitric acid into a large flask in an ice bath. Then, by simply pouring household ammonia into the flask and running away, ammonium nitrate would be formed.

After the materials have stopped reacting, one would simply have to leave the solution in a warm place until all of the water and any un-neutralized ammonia or acid have evaporated. There would be a fine powder formed, which would be ammonium nitrate.

It must be kept in an airtight container, because of its tendency to pick up water from the air.

The crystals formed in the above process would have to be heated VERY gently to drive off the remaining water.

EXPLOSIVE RECIPES

EXPLOSIVE THEORY

An explosive is any material that, when ignited by heat or shock, undergoes rapid decomposition or oxidation. This process releases energy that is stored in the material in the form of heat and light, or by breaking down into gaseous compounds that occupy a much larger volume than the original piece of material. Because this expansion is very rapid, large volumes of air are displaced by the expanding gasses.

This expansion occurs at a speed greater than the speed of sound, and so a sonic boom occurs. This explains the mechanics behind an explosion. Explosives occur in several forms: high-order explosives which detonate, low order explosives, which burn, and primers, which may do both.

High order explosives detonate. A detonation occurs only in a high order explosive. Detonations are usually incurred by a shockwave that passes through a block of the high explosive material.

The shockwave breaks apart the molecular bonds between the atoms of the substance, at a rate approximately equal to the speed of sound traveling through that material. In a high explosive, the fuel and oxidizer are chemically bonded, and the shockwave breaks apart these bonds, and re-combines the two materials to produce mostly gasses. T.N.T., ammonium nitrate, and R.D.X. are examples of high order explosives.

Low order explosives do not detonate; they burn, or un-

dergo oxidation. when heated, the fuel(s) and oxodizer (s) combine to produce heat, light, and gaseous products. Some low order materials burn at about the same speed under pressure as they do in the open, such as blackpowder.

Others, such as gunpowder, which is correctly called nitrocellulose, burn much faster and hotter when they are in a confined space, such as the barrel of a firearm; they usually burn much slower than blackpowder when they are ignited in unpressurized conditions. Black powder, nitrocellulose, and flash powder are good examples of low order explosives.

Primers are peculiarities to the explosive field. Some of them, such as mercury filminate, will function as a low or high order explosive. They are usually more sensitive to friction, heat, or shock, than the high or low explosives. Most primers perform like a high order explosive, except that they are much more sensitive. Still others merely burn, but when they are confined, they burn at a great rate and with a large expansion of gasses and a shockwave.

Primers are usually used in a small amount to initiate, or cause to decompose, a high order explosive, as in an artillery shell. But, they are also frequently used to ignite a low order explosive; the gunpowder in a bullet is ignited by the detonation of its primer.

IMPACT EXPLOSIVES

Impact explosives are often used as primers. Of the ones discussed here, only mercury fulminate and nitroglycerine are real explosives; Ammonium triiodide crystals decompose upon impact, but they release little heat and no light.

Impact explosives are always treated with the greatest care.

AMMONIUM TRIIODIDE CRYSTALS

Ammonium triiodide crystals are foul-smelling purple colored crystals that decompose under the slightest amount of heat, friction, or shock, if they are made with the purest ammonia (ammonium hydroxide) and iodine. Such crystals are said to detonate when a fly lands on them, or when an ant walks across them.

Household ammonia, however, has enough impurities, such as soaps and abrasive agents, so that the crystals will detonate when thrown, crushed, or heated. Upon detonation, a loud report is heard, and a cloud of purple iodine gas appears about the detonation site. Whatever the unfortunate surface that the crystal was detonated upon will usually be ruined, as some of the iodine in the crystal is thrown about in a solid form, and iodine is corrosive. It leaves nasty, ugly, permanent brownish-purple stains on whatever it contacts. Iodine gas is also bad news, since it can damage lungs, and it settles to the ground and stains things there also.

Touching iodine leaves brown stains on the skin that last for about a week, unless they are immediately and vigorously washed off. While such a compound would have little use to a serious terrorist, a vandal could utilize them in damaging property. Or, a terrorist could throw several of them into a crowd as a distraction, an action which would possibly injure a few people, but frighten almost anyone, since a small crystal that not be seen when

thrown produces a rather loud explosion.

Ammonium triiodide crystals could be produced in the following manner:

Materials

Equipment

iodine crystals

funnel and filter paper

paper towels

clear ammonia

(ammonium hydroxide, two throw-away glass jars for the suicidal)

- **Place about two teaspoons of iodine into one of the glass jars. The jars must both be throw away because they will never be clean again.**
- **Add enough ammonia to completely cover the iodine.**
- **Place the funnel into the other jar, and put the filter paper in the funnel. The technique for putting filter paper in a funnel is taught in every basic chemistry lab class: fold the circular paper in half, so that a semi-circle is formed. Then, fold it in half again to form a triangle with one curved side. Pull one thickness of paper out to form a cone, and place the cone into the funnel.**

- After allowing the iodine to soak in the ammonia for a while, pour the solution into the paper in the funnel through the filter paper.
- While the solution is being filtered, put more ammonia into the first jar to wash any remaining crystals into the funnel as soon as it drains.
- Collect all the purplish crystals without touching the brown filter paper, and place them on the paper towels to dry for about an hour. Make sure that they are not too close to any lights or other sources of heat, as they could well detonate. While they are still wet, divide the wet material into about eight chunks.
- After they dry, gently place the crystals onto a one square inch piece of duct tape. Cover it with a similar piece, and gently press the duct tape together around the crystal, making sure not to press the crystal itself. Finally, cut away most of the excess duct tape with a pair of scissors, and store the crystals in a cool dry safe place.
- They have a shelf life of about a week, and they should be stored in individual containers that can be thrown away, since they have a tendency to slowly decompose, a process which gives off iodine vapors, which will stain whatever they settle on.
- One possible way to increase their shelf life is to store them in airtight containers. To use them, simply throw them against any surface or place them where they will be stepped on or crushed.

MERCURY FULMINATE

Mercury fulminate is perhaps one of the oldest known initiating compounds. It can be detonated by either heat or shock, which would make it of infinite value to a terrorist. Even the action of dropping a crystal of the fulminate causes it to explode. A person making this material would probably use the following procedure:

MATERIALS

mercury (5 g)

concentrated nitric
acid (35 ml)

ethyl alcohol (30 ml)

distilled water

EQUIPMENT

glass stirring rod

100 ml beaker (2)

adjustable heat

source

blue litmus paper

funnel and filter paper

- In one beaker, mix 5 g of mercury with 35 ml of concentrated nitric acid, using the glass rod.
 - Slowly heat the mixture until the mercury is dissolved, which is when the solution turns green and boils.
 - Place 30 ml of ethyl alcohol into the second beaker, and slowly and carefully add all of the contents of the first beaker to it. Red and/or brown fumes should appear. These fumes are toxic and flammable.
 - After thirty to forty minutes, the fumes should turn white, indicating that the reaction is near completion. After ten more minutes, add 30 ml of the distilled water to the solution.
 - Carefully filter out the crystals of mercury fulminate from the liquid solution. Dispose of the solution in a safe place, as it is corrosive and toxic.
 - Wash the crystals several times in distilled water to remove as much excess acid as possible. Test the crystals with the litmus paper until they are neutral. This will be when the litmus paper stays blue when it touches the wet crystals
 - Allow the crystals to dry, and store them in a safe place, far away from any explosive or flammable material.
- This procedure can also be done by volume, if the available mercury cannot be weighed. Simply use 10 volumes of nitric acid and 10 volumes of ethanol to every one volume of mercury.

NITROGLYCERINE

Nitroglycerine is one of the most sensitive explosives, if it is not the most sensitive. Although it is possible to make it safely, it is difficult. Many a young anarchist has been killed or seriously injured while trying to make the stuff. When Nobel's factories make it, many people were killed by the all-to-frequent factory explosions. Usually, as soon as it is made, it is converted into a safer substance, such as dynamite. An idiot who attempts to make nitroglycerine would use the following procedure:

MATERIAL

EQUIPMENT

distilled water

eye-dropper

table salt

100 ml beaker

sodium bicarbonate

200-300 ml beakers (2)

concentrated nitric acid

ice bath container

(13 ml)

(a plastic bucket serves well)

concentrated sulfuric acid

centigrade thermometer

(39 ml)

blue litmus paper

glycerine

- **Place 150 ml of distilled water into one of the 200-300 ml beakers.**
- **In the other 200-300 ml beaker, place 150 ml of distilled water and about a spoonful of sodium bicarbonate, and stir them until the sodium bicarbonate dissolves. Do not put so much sodium bicarbonate in the water so that some remains undissolved.**
- **Create an ice bath by half filling the ice bath container with ice, and adding table salt. This will cause the ice to melt, lowering the overall temperature.**
- **Place the 100 ml beaker into the ice bath, and pour the 13 ml of concentrated nitric acid into the 100 ml beaker. Be sure that the beaker will not spill into the ice bath, and that the ice bath will not overflow into the beaker when more materials are added to it. Be sure to have a large enough ice bath container to add more ice. Bring the temperature of the acid down to about 20 degrees centigrade or less.**
- **When the nitric acid is as cold as stated above, slowly and carefully add the 39 ml of concentrated sulfuric acid to the nitric acid. Mix the two acids together, and cool the mixed acids to 10 degrees centigrade. It is a good idea to start another ice bath to do this.**
- **With the eyedropper, slowly put the glycerine into the**

mixed acids, one drop at a time. Hold the thermometer along the top of the mixture where the mixed acids and glycerine meet. DO NOT ALLOW THE TEMPERATURE TO GET ABOVE 30 DEGREES CENTIGRADE; IF THE TEMPERATURE RISES ABOVE THIS TEMPERATURE, RUN LIKE HELL!!! The glycerine will start to nitrate immediately, and the temperature will immediately begin to rise. Add glycerine until there is a thin layer of glycerine on top of the mixed acids. It is always safest to make any explosive in small quantities.

- Stir the mixed acids and glycerine for the first ten minutes of nitration, adding ice and salt to the ice bath to keep the temperature of the solution in the 100 ml beaker well below 30 degrees centigrade. Usually, the nitroglycerine will form on the top of the mixed acid solution, and the concentrated sulfuric acid will absorb the water produced by the reaction.**
- When the reaction is over, and when the nitroglycerine is well below 30 degrees centigrade, slowly and carefully pour the solution of nitroglycerine and mixed acid into the distilled water in the beaker in step 1. The nitroglycerine should settle to the bottom of the beaker, and the water-acid solution on top can be poured off and disposed of. Drain as much of the acid-water solution as possible without disturbing the nitroglycerine.**
- Carefully remove the nitroglycerine with a clean eyedropper, and place it into the beaker in step 2. The sodium bicarbonate solution will eliminate much of the a-**

cid, which will make the nitroglycerine more stable, and less likely to explode for no reason, which it can do. Test the nitroglycerine with the litmus paper until the litmus stays blue. Repeat this step if necessary, and use new sodium bicarbonate solutions as in step 2.

- When the nitroglycerine is as acid-free as possible, store it in a clean container in a safe place. The best place to store nitroglycerine is far away from anything living, or from anything of any value. Nitroglycerine can explode for no apparent reason, even if it is stored in a secure cool place.**

PICRATES

Although the procedure for the production of picric acid, or trinitrophenol has not yet been given, its salts are described first, since they are extremely sensitive, and detonate on impact. By mixing picric acid with metal hydroxides, such as sodium or potassium hydroxide, and evaporating the water, metal picrates can be formed.

Simply obtain picric acid, or produce it, and mix it with a solution of (preferably) potassium hydroxide, of a mid range molarity. (about 6-9 M) This material, potassium picrate, is impact-sensitive, and can be used as an initiator for any type of high explosive.

LOW-ORDER EXPLOSIVES

There are many low-order explosives that can be purchased in gun stores and used in explosive devices. However, it is possible that a wise store owner would not sell these substances to a suspicious-looking individual.

Such an individual would then be forced to resort to making his own low-order explosives.

BLACK POWDER

First made by the Chinese for use in fireworks, black powder was first used in weapons and explosives in the 12th century. It is very simple to make, but it is not very powerful or safe. Only about 50% of black powder is converted to hot gasses when it is burned; the other half is mostly very fine burned particles. Black powder has one major problem: it can be ignited by static electricity.

This is very bad, and it means that the material must be made with wooden or clay tools. Anyway, a misguided individual could manufacture black powder at home with the following procedure:

MATERIALS

potassium
nitrate (75 g)

or

sodium
nitrate (75 g)

sulfur (10 g)

EQUIPMENT

clay grinding bowl
and clay grinder

or

wooden salad bowl
and wooden spoon

plastic bags (3)

charcoal (15 g) 300-500 ml beaker (1)

distilled water coffee pot or heat source

- **Place a small amount of the potassium or sodium nitrate in the grinding bowl and grind it to a very fine powder. Do this to all of the potassium or sodium nitrate, and store the ground powder in one of the plastic bags.**
- **Do the same thing to the sulfur and charcoal, storing each chemical in a separate plastic bag.**
- **Place all of the finely ground potassium or sodium nitrate in the beaker, and add just enough boiling water to the chemical to get it all wet.**
- **Add the contents of the other plastic bags to the wet potassium or sodium nitrate, and mix them well for several minutes. Do this until there is no more visible sulfur or charcoal, or until the mixture is universally black.**
- **On a warm sunny day, put the beaker outside in the direct sunlight. Sunlight is really the best way to dry black powder, since it is never too hot, but it is hot enough to evaporate the water.**
- **Scrape the black powder out of the beaker, and store it in a safe container. Plastic is really the safest container, followed by paper. Never store black powder in a plastic bag, since plastic bags are prone to generate static electricity.**

NITROCELLULOSE

Nitrocellulose is usually called "gunpowder" or "guncotton". It is more stable than black powder, and it produces a much greater volume of hot gas. It also burns much faster than black powder when it is in a confined space. Finally, nitrocellulose is fairly easy to make, as outlined by the following procedure:

MATERIALS

EQUIPMENT

cotton (cellulose)

two (2) 200-300 ml beakers

concentrated
nitric acid

funnel and filter paper

blue litmus paper

concentrated
sulfuric acid

distilled water

- Pour 10 cc of concentrated sulfuric acid into the beaker. Add to this 10 cc of concentrated nitric acid.
- Immediately add 0.5 gm of cotton, and allow it to soak for exactly 3 minutes.
- Remove the nitrocotton, and transfer it to a beaker of distilled water to wash it in.

- **Allow the material to dry, and then re-wash it.**
- **After the cotton is neutral when tested with litmus paper, it is ready to be dried and stored.**

FUEL-OXODIZER MIXTURES

There are nearly an infinite number of fuel-oxodizer mixtures that can be produced by a misguided individual in his own home. Some are very effective and dangerous, while others are safer and less effective. A list of working fuel-oxodizer mixtures will be presented, but the exact measurements of each compound are debatable for maximum effectiveness. A rough estimate will be given of the percentages of each fuel and oxodizer:

oxodizer, % by weight	fuel, % by weight	speed #	notes
=====			
=====			
potassium chlorate 67%	sulfur 33%	5	
friction/impact			
sensitive; unstable			

potassium chlorate 50%	sugar 35%	5	fairly
slow burning;			
charcoal 15%	unstable		

potassium chlorate 50%	sulfur 25%	8	extre-

mely

magnesium or unstable!
aluminum dust 25%

potassium chlorate 67% magnesium or 8
unstable
aluminum dust 33%

sodium nitrate 65% magnesium dust 30% ?
unpredictable
sulfur 5% burn rate

potassium permanganate 60% glycerine 40% 4
delay before
ignition depends

WARNING: IGNITES SPONTANEOUSLY WITH GLYCERINE!!!
upon grain size

potassium permanganate 67% sulfur 33% 5
unstable

potassium permanganate 60% sulfur 20% 5
unstable

magnesium or
aluminum dust 20%

potassium permanganate 50% sugar 50%
3 ?

potassium nitrate 75% charcoal 15% 7 this
is
 sulfur 10% black powder!

potassium nitrate 60% powdered iron 1
burns very hot
 or magnesium 40%

oxidizer, % by weight fuel, % by weight speed #

notes

=====

=====

potassium chlorate 75% phosphorus 8 used to
make strike-

sesquisulfide 25% anywhere ma-
tches

ammonium perchlorate 70% aluminum dust 30%
6 solid fuel for

and small amount of space shuttle
iron oxide

potassium perchlorate 67% magnesium or 10
flash powder

(sodium perchlorate) aluminum dust 33%

potassium perchlorate 60% magnesium or 8
alternate

(sodium perchlorate) aluminum dust 20%
flash powder

sulfur 20%

barium nitrate 30% aluminum dust 30% 9

alternate

**potassium perchlorate 30% flash po-
wder**

barium peroxide 90% magnesium dust 5% 10

alternate

aluminum dust 5% flash powder

potassium perchlorate 50% sulfur 25% 8

slightly

magnesium or unstable

aluminum dust 25%

potassium chlorate 67% red phosphorus 27% 7

very unstable

**calcium carbonate 3% sulfur 3% impact
sensitive**

potassium permanganate 50% powdered sugar 25%

7

unstable;

aluminum or

ignites if

it gets wet!

...

potassium chlorate 75%

charcoal dust 15%

6

unstable

sulfur 10%

NOTE: Mixtures that uses substitutions of sodium perchlorate for potassium

perchlorate become moisture-absorbent and less stable.

The higher the speed number, the faster the fuel-oxodizer mixture burns

AFTER ignition. Also, as a rule, the finer the powder, the faster the rate of burning.

As one can easily see, there is a wide variety of fuel-oxidizer mixtures

that can be made at home. By altering the amounts of fuel and oxidizer(s),

different burn rates can be achieved, but this also can change the sensitivity of the mixture.

PERCHLORATES

As a rule, any oxidizable material that is treated with perchloric acid will become a low order explosive. Metals, however, such as potassium or sodium, become excellent bases for flash-type powders.

Some materials that can be perchlorated are cotton, paper, and sawdust. To produce potassium or sodium perchlorate, simply acquire the hydroxide of that metal, e.g. sodium or potassium hydroxide.

It is a good idea to test the material to be perchlorated with a very small amount of acid, since some of the materials tend to react explosively when contacted by the acid.

Solutions of sodium or potassium hydroxide are ideal.

HIGH-ORDER EXPLOSIVES

High order explosives can be made in the home without too much difficulty. The main problem is acquiring the nitric acid to produce the high explosive. Most high explosives detonate because their molecular structure is made up of some fuel and usually three or more NO_2 (nitrogen dioxide) molecules. T.N.T., or Tri-Nitro-Toluene is an excellent example of such a material. When a shock wave passes through an molecule of T.N.T., the nitrogen dioxide bond is broken, and the oxygen combines with the fuel, all in a matter of microseconds. This accounts for the great power of nitrogen-based explosives.

R.D.X.

R.D.X., also called cyclonite, or composition C-1 (when mixed with plasticisers) is one of the most valuable of all military explosives. This is because it has more than 150% of the power of T.N.T., and is much easier to detonate. It should not be used alone, since it can be set off by a not-too severe shock. It is less sensitive than mercury fulminate, or nitro-glycerine, but it is still too sensitive to be used alone. R.D.X. can be made by the surprisingly simple method outlined hereafter. It is much easier to make in the home than all other high explosives, with the possible exception of ammonium nitrate.

MATERIALS

hexamine

or

methenamine

fuel tablets (50 g)

concentrated

nitric acid (550 ml)

distilled water

table salt

ice

ammonium nitrate

EQUIPMENT

500 ml beaker

glass stirring rod

funnel and filter paper

**ice bath container
(plastic bucket)**

centigrade thermometer

blue litmus paper

Place the beaker in the ice bath, (see section 3.13, steps 3-4) and carefully pour 550 ml of concentrated nitric acid into the

beaker.

When the acid has cooled to below 20 degrees centigrade, add small amounts of the crushed fuel tablets to the beaker. The temperature will rise, and it must be kept below 30 degrees centigrade, or dire consequences could result. Stir the mixture.

Drop the temperature below zero degrees centigrade, either by adding more ice and salt to the old ice bath, or by creating a new ice bath. Or, ammonium nitrate could be added to the old ice bath, since it becomes cold when it is put in water.

Continue stirring the mixture, keeping the temperature below zero degrees centigrade for at least twenty minutes

Pour the mixture into a litre of crushed ice. Shake and stir the mixture, and allow it to melt. Once it has melted, filter out the crystals, and dispose of the corrosive liquid.

Place the crystals into one half a litre of boiling distilled water. Filter the crystals, and test them with the blue litmus paper. Repeat steps 4 and 5 until the litmus paper remains blue. This will make the crystals more stable and safe.

Store the crystals wet until ready for use. Allow them to dry completely using them. R.D.X. is not stable enough to use alone as an explosive.

Composition C-1 can be made by mixing 88.3% R.D.X. (by weight) with 11.1% mineral oil, and 0.6% lecithin. Knead these material together in a plastic bag. This is a good way to desensitize the explosive.

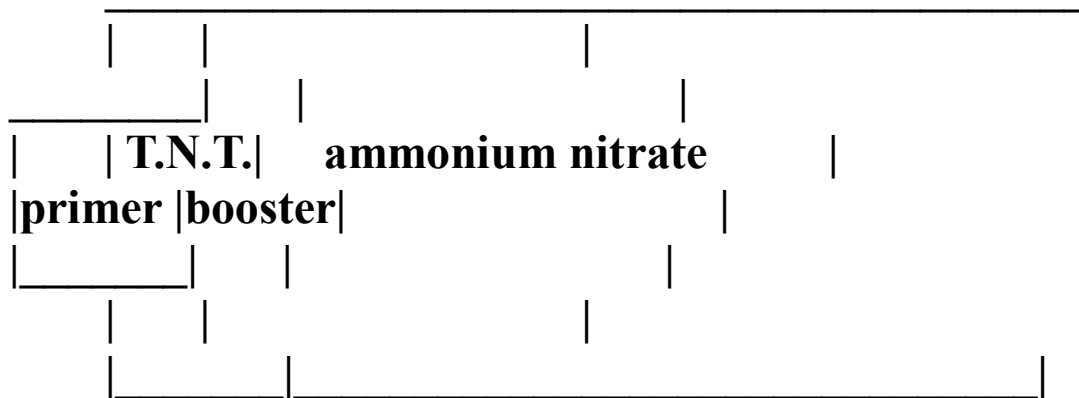
H.M.X. is a mixture of T.N.T. and R.D.X.; the ratio is 50/50, by weight. it is not as sensitive, and is almost as powerful as straight R.D.X.

By adding ammonium nitrate to the crystals of R.D.X. after step 5, it should be possible to desensitize the R.D.X. and increase its power, since ammonium nitrate is very insensitive and powerful. Sodium or potassium nitrate could also be added; a small quantity is sufficient to stabilize the R.D.X.

R.D.X. detonates at a rate of 8550 meters/second when it is compressed to a density of 1.55 g/cubic cm.

AMMONIUM NITRATE

Ammonium nitrate could be made by a terrorist according to the hap- hazard method in section 2.33, or it could be stolen from a construction site, since it is usually used in blasting, because it is very stable and insensitive to shock and heat. A terrorist could also buy several Instant Cold-Paks from a drug store or medical supply store. The major disadvantage with ammonium nitrate, from a terrorist's point of view, would be detonating it. A rather powerful priming charge must be used, and usually with a booster charge. The diagram below will explain.



The primer explodes, detonating the T.N.T., which detonates, sending a tremendous shockwave through the ammonium nitrate, detonating it.

ANFOS

ANFO is an acronym for Ammonium Nitrate - Fuel Oil Solution. An ANFO solves the only other major problem with ammonium nitrate: its tendency to pick up water vapor from the air. This results in the explosive failing to detonate when such an attempt is made. This is rectified by mixing 94% (by weight) ammonium nitrate with 6% fuel oil, or kerosene. The kerosene keeps the ammonium nitrate from absorbing moisture from the air. An ANFO also requires a large shockwave to set it off.

T.N.T.

T.N.T., or Tri-Nitro-Toluene, is perhaps the second oldest known high explosive. Dynamite, of course, was the first. It is certainly the best known high explosive, since it has been popularized by early morning cartoons.

It is the standard for comparing other explosives to, since it is the most well known. In industry, a T.N.T. is made by a three step nitration process that is designed to conserve the nitric and sulfuric acids which are used to make the product. A terrorist, however, would probably opt for the less economical one step method.

The one step process is performed by treating toluene with very strong (fuming) sulfuric acid. Then, the sulfated toluene is treated with very strong (fuming) nitric acid in an ice bath. Cold water is added the solution, and it is filtered.

POTASSIUM CHLORATE

Potassium chlorate itself cannot be made in the home, but it can be obtained from labs. If potassium chlorate is mixed with a small amount of vaseline, or other petroleum jelly, and a shockwave is passed through it, the material will detonate with slightly more power than black powder. It must, however, be confined to detonate it in this manner. The procedure for making such an explosive is outlined below:

MATERIALS

EQUIPMENT

potassium chlorate
(9 parts, by volume)

zip-lock plastic bag

petroleum jelly
(vaseline)
(1 part, by volume)

clay grinding bowl
or

wooden bowl and wooden spoon

- Grind the potassium chlorate in the grinding bowl carefully and slowly, until the potassium chlorate is a very fine powder. The finer that it is powdered, the faster (better) it will detonate.
- Place the powder into the plastic bag. Put the petroleum jelly into the plastic bag, getting as little on the sides of the bag as possible, i.e. put the vaseline on the potassium chlorate powder.
- Close the bag, and kneed the materials together until none of the potassium chlorate is dry powder that does not stick to the main glob. If necessary, add a bit more petroleum jelly to the bag.

- **The material must be used within 24 hours, or the mixture will react to greatly reduce the effectiveness of the explosive. This reaction, however, is harmless, and releases no heat or dangerous products.**

DYNAMITE

The name dynamite comes from the Greek word "dynamis", meaning power. Dynamite was invented by Nobel shortly after he made nitroglycerine. It was made because nitroglycerine was so dangerously sensitive to shock.

A misguided individual with some sanity would, after making nitroglycerine (an insane act) would immediately convert it to dynamite. This can be done by adding various materials to the nitroglycerine, such as sawdust.

The sawdust holds a large weight of nitroglycerine per volume. Other materials, such as ammonium nitrate could be added, and they would tend to desensitize the explosive, and increase the power. But even these nitroglycerine compounds are not really safe.

NITROSTARCH EXPLOSIVES

NITROSTARCH EXPLOSIVES ARE SIMPLE TO MAKE, AND ARE FAIRLY POWERFUL. ALL THAT NEED BE DONE IS TREAT VARIOUS STARCHES WITH A MIXTURE OF CONCENTRATED NITRIC AND SULFURIC ACIDS. 10 ML OF CONCENTRATED SULFURIC ACID IS ADDED TO 10 ML OF CONCENTRATED NITRIC ACID. TO THIS MIXTURE IS ADDED 0.5 GRAMS OF STARCH. COLD WATER IS ADDED, AND THE APPARENTLY UNCHANGED NITROSTARCH IS FILTERED OUT. NITROSTARCH EXPLOSIVES ARE OF SLIGHTLY LOWER POWER THAN T.N.T., BUT THEY ARE MORE READILY DETONATED.

PICRIC ACID

Picric acid, also known as Tri-Nitro-Phenol, or T.N.P., is a military explosive that is most often used as a booster charge to set off another less sensitive explosive, such as T.N.T. It another explosive that is fairly simple to make, assuming that one can acquire the concentrated sulfuric and nitric acids. Its procedure for manufacture is given in many college chemistry lab manuals, and is easy to follow. The main problem with picric acid is its tendency to form dangerously sensitive and unstable picrate salts, such as potassium picrate. For this reason, it is usually made into a safer form, such as ammonium picrate, also called explosive D. A social deviant would probably use a formula similar to the one presented here to make picric acid.

MATERIALS

phenol (9.5 g)

concentrated
sulfuric acid (12.5 ml)

concentrated nitric
acid (38 ml)

distilled water

EQUIPMENT

500 ml flask

adjustable heat source

1000 ml beaker

or other container
suitable for boiling in

filter paper
and funnel

glass stirring rod

- **Place 9.5 grams of phenol into the 500 ml flask, and carefully add 12.5 ml of concentrated sulfuric acid and stir the mixture.**
- **Put 400 ml of tap water into the 1000 ml beaker or boiling container and bring the water to a gentle boil.**
- **After warming the 500 ml flask under hot tap water, place it in the boiling water, and continue to stir the mixture of phenol and acid for about thirty minutes. After thirty minutes, take the flask out, and allow it to cool for about five minutes.**
- **Pour out the boiling water used above, and after allowing the container to cool, use it to create an ice bath, similar to the one used in section 3.13, steps 3-4. Place the 500 ml flask with the mixed acid and phenol in the ice bath. Add 38 ml of concentrated nitric acid in small amounts, stirring the mixture constantly. A vigorous but "harmless" reaction should occur. When the mixture stops reacting vigorously, take the flask out of the ice bath.**
- **Warm the ice bath container, if it is glass, and then begin boiling more tap water. Place the flask containing the mixture in the boiling water, and heat it in the boiling water for 1.5 to 2 hours.**
- **Add 100 ml of cold distilled water to the solution, and chill it in an ice bath until it is cold.**
- **Filter out the yellowish-white picric acid crystals by pouring the solution through the filter paper in the funnel. Collect the liquid and dispose of it in a safe place, since it is corrosive.**
 - **Wash out the 500 ml flask with distilled water, and put the contents of the filter paper in the flask. Add 300 ml of water, and shake vigorously.**
- **Re-filter the crystals, and allow them to dry.**

- **Store the crystals in a safe place in a glass container, since they will react with metal containers to produce picrates that could explode spontaneously.**

AMMONIUM PICRATE

Ammonium picrate, also called Explosive D, is another safety explosive. It requires a substantial shock to cause it to detonate, slightly less than that required to detonate ammonium nitrate.

It is much safer than picric acid, since it has little tendency to form hazardous unstable salts when placed in metal containers. It is simple to make from picric acid and clear household ammonia.

All that need be done is put the picric acid crystals into a glass container and dissolve them in a great quantity of hot water. Add clear household ammonia in excess, and allow the excess ammonia to evaporate. The powder remaining should be ammonium picrate.

NITROGEN TRICHLORIDE

Nitrogen trichloride, also known as chloride of azode, is an oily yellow liquid. It explodes violently when it is heated above 60 degrees celsius, or when it comes in contact with an open flame or spark. It is fairly simple to produce.

- In a beaker, dissolve about 5 teaspoons of ammonium nitrate in water. Do not put so much ammonium nitrate into the solution that some of it remains undissolved in the bottom of the beaker.**
- Collect a quantity of chlorine gas in a second beaker by mixing hydrochloric acid with potassium permanganate in a large flask with a stopper and glass pipe.**
- Place the beaker containing the chlorine gas upside down on top of the beaker containing the ammonium nitrate solution, and tape the beakers together. Gently heat the bottom beaker. When this is done, oily yellow droplets will begin to form on the surface of the solution, and sink down to the bottom. At this time, remove the heat source immediately.**

Alternately, the chlorine can be bubbled through the ammonium nitrate solution, rather than collecting the gas in a beaker, but this requires timing and a stand to hold the beaker and test tube.

The chlorine gas can also be mixed with anhydrous ammonia gas, by gently heating a flask filled with clear household ammonia. Place the glass tubes from the chlorine-generating flask and the tube from the ammonia-generating flask in another flask that contains water.

- Collect the yellow droplets with an eyedropper, and use them immediately, since nitrogen trichloride decomposes in 24 hours.**

LEAD AZIDE

Lead Azide is a material that is often used as a booster charge for other explosive, but it does well enough on its own as a fairly sensitive explosive. It does not detonate too easily by percussion or impact, but it is easily detonated by heat from an igniter wire, or a blasting cap. It is simple to produce, assuming that the necessary chemicals can be procured.

By dissolving sodium azide and lead acetate in water in separate beakers, the two materials are put into an aqueous state. Mix the two beakers together, and apply a gentle heat. Add an excess of the lead acetate solution, until no reaction occurs, and the precipitate on the bottom of the beaker stops forming. Filter off the solution, and wash the precipitate in hot water.

The precipitate is lead azide, and it must be stored wet for safety. If lead acetate cannot be found, simply acquire acetic acid, and put lead metal in it. Black powder bullets work well for this purpose.

the 'information' and 'communication' fields. The 'information' field is defined as:

...the study of the processes of knowledge creation, knowledge organisation, knowledge representation, knowledge dissemination, knowledge preservation and knowledge use, and the impact of these processes on society [10, p. 1].

The 'communication' field is defined as:

...the study of the processes of knowledge dissemination, knowledge preservation and knowledge use, and the impact of these processes on society [10, p. 1].

These definitions are very broad and cover a wide range of topics. However, they do not mention the role of the library in the information and communication fields.

The role of the library in the information and communication fields is a topic that has been discussed in the literature for many years. The following are some of the key issues that have been discussed:

1. The role of the library in the information field. The library is seen as a key institution in the information field, responsible for the collection, organisation, and dissemination of information.

2. The role of the library in the communication field. The library is seen as a key institution in the communication field, responsible for the dissemination of information and the promotion of communication.

3. The role of the library in the information and communication fields. The library is seen as a key institution in both the information and communication fields, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

4. The role of the library in the information and communication fields in the future. The library is seen as a key institution in the information and communication fields in the future, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

5. The role of the library in the information and communication fields in the context of the digital age. The library is seen as a key institution in the information and communication fields in the context of the digital age, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

6. The role of the library in the information and communication fields in the context of the globalisation of the world. The library is seen as a key institution in the information and communication fields in the context of the globalisation of the world, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

7. The role of the library in the information and communication fields in the context of the information and communication technologies. The library is seen as a key institution in the information and communication fields in the context of the information and communication technologies, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

8. The role of the library in the information and communication fields in the context of the information and communication policy. The library is seen as a key institution in the information and communication fields in the context of the information and communication policy, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

9. The role of the library in the information and communication fields in the context of the information and communication research. The library is seen as a key institution in the information and communication fields in the context of the information and communication research, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

10. The role of the library in the information and communication fields in the context of the information and communication education. The library is seen as a key institution in the information and communication fields in the context of the information and communication education, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

11. The role of the library in the information and communication fields in the context of the information and communication services. The library is seen as a key institution in the information and communication fields in the context of the information and communication services, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

12. The role of the library in the information and communication fields in the context of the information and communication infrastructure. The library is seen as a key institution in the information and communication fields in the context of the information and communication infrastructure, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

13. The role of the library in the information and communication fields in the context of the information and communication environment. The library is seen as a key institution in the information and communication fields in the context of the information and communication environment, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

14. The role of the library in the information and communication fields in the context of the information and communication society. The library is seen as a key institution in the information and communication fields in the context of the information and communication society, responsible for the collection, organisation, and dissemination of information, and the promotion of communication.

